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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,964

03/31/2004

Holger Schwedes

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MINTZ, LEVIN, COHN, FERRIS, GLOVSKY & POPEO, P.C.
9255 TOWNE CENTER DRIVE
SUITE 600
SAN DIEGO, CA 92121

EXAMINER

RAAB, CHRISTOPHER J

ART UNIT

PAPER NUMBER

2169

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,964

Applicant(s)

SCHWEDES, HOLGER

Examiner

Christopher J. Raab

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

01. This Office action has been issued in response to amendment filed **10/10/2006**. Claims 1 – 10, and 13 – 14 are pending. Applicants' arguments have been carefully and respectfully considered and are persuasive, except as they relate to the claim rejections under 35 USC 102, as will be discussed below.

Claim Rejections - 35 USC § 101

02. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

03. **Claims 1 – 5** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack a useful, concrete, and tangible result within the meaning of 35 USC 101.

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus, or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process claim must set forth a practical application of that 101 judicial exception to produce a real-world result. Providing a benefit to the recipient if the recipient has performed the activity does not produce a real-world result and is clearly just an abstract idea.

Therefore the claims do not provide a tangible result.

In view of the above analysis, applicant's claims are processes, which include a judicial exception therein. Upon review of the claims as a whole, there is no transformation nor do the claims produce a useful, concrete, and tangible result. Accordingly, the claims are non-statutory under 35 U.S.C. 101.

04. **Claims 13 – 14** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, function descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because

"[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections – 35 USC § 102

05. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

06. **Claims 1 – 5** are rejected under 35 U.S.C. 102(a) as being anticipated by United Scripters.

Consider **claims 1 – 5**, United Scripters clearly show a method of searching an Array (read as dictionary comprising an ordered list of terms) comprising: sorting an Array (read as setting a dictionary sorting function to sort the ordered list of terms base on case sensitivity) (page 3 lines 12 – 20), and performing a binary search which divides each Array in slices and if it finds at the middle of that slice a range within which the searched for item is located, it shrinks it there, otherwise divides by half again (read as determining whether the term corresponding to the search term is in an upper or lower half of the ordered list, further comprising selecting an upper or lower half of the of the ordered list that includes the search term) (page 2 lines 20 – 28) to return a found instance (read as determining whether the term corresponding to a search term is the last term in the remaining ordered list and returning the term to a search engine) (page 3 lines 2 – 5, page 4 lines 25 - 34).

Claim Rejections - 35 USC § 103

07. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

08. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

09. **Claims 6 – 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over United Scripters in view of Narayana Vyas Kondreddi ("Case Sensitive Search In SQL Server Queries", February 05, 2004).

Consider **claim 6**, United Scripters clearly show a method comprising:

searching an Array (read as a method of case-insensitive search of a dictionary),

wherein the dictionary comprises an ordered list of terms comprising the steps of:

sorting the Array with a case insensitive version with the highest value at the last

position (read as setting a dictionary sorting function to sort the ordered list of terms

based on case-insensitivity) (page 3 of 6 lines 6 – 12);

performing a classical binary search (read as executing a binary search of the dictionary according to the dictionary sorting function) (page 2 lines 20 – 28) and such that capital letters would all go before the lowercase ones and numbers starting with the same number would be associated (read as based on the binary numbers corresponding to the ASCII coding of alphanumeric characters in the ordered list of terms) (page 18 lines 8 – 20);

returning an Array, which collects all the position indexes (read as determining a last term of the ordered list that is insensitively equal to a search term) (page 3 lines 7 – 10).

However United Scripters does not specifically disclose converting the search terms before searching.

Narayana Yvas Kondreddi however does disclose a method wherein the user input is converted to lower case for the purpose of searching the database (read as converting the search term to all lowercase characters to obtain the last term of the ordered list) (page 1 lines 27 – 33).

Therefore it would have been obvious to one of ordinary skill in the art to combine the conversion technique taught by Narayana Yvas Kondreddi into the binary search method taught by United Scripters for the purpose of allowing a different flow for the search of the database.

Consider **claims 7 – 10**, and **as applied to claim 6 above**, United Scripters clearly show a method comprising steps of: returning either the position index of the first item found matching the given searched value, or an Array which collects all the

positions indexes where such value has been found in the Array such that you can search for all the entries that match the given searched value by making micro loops around the index unless you find a higher or a lower number in order to assess the boundaries of the item (read as determining whether each term in the ordered list is insensitively equal to a search term, and if a term in the ordered list is insensitively equal to a search term, adding the term to a result list, and if a term in the ordered list is not insensitively equal to a search term, evaluating a next term in the ordered list, and compiling one or more terms in a result list and returning the result list to a search engine, (page 3 lines 7 – 10).

06. **Claims 13 – 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over United Scripters in view of fsu.edu ("Instructions For Searching The Special Collection Web Site", January 13, 2004).

Consider **claim 13**, United Scripters clearly show a system comprising:

a way to receive an input Array object (read as receive a user search query for a search of the dictionary) (page 4 lines 5 – 6) to return an Array whose each entry is the numerical index value of the input Array where an instance of the given find argument was located (read as return a search result list) (page 4 lines 10 – 27) such that the sorting subroutine can perform in one of four ways: the first will put the highest value as entry[0], the second will put the highest value at the last position, the third and fourth being case-insensitive versions of the first two processes (read as further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary) (page 3 of 6 lines 5 – 11);

the dictionary can be ordered such that capital letters would all go either before or after the lowercase ones, and numbers starting with the same number would be associated (read as an ordering module configured to order the terms in the dictionary based in part on the binary numbers corresponding to the ASCII coding of alphanumeric characters comprising the terms in the dictionary) (page 18 lines 8 – 20).

However, United Scripters does not specifically disclose a search engine for use in this system.

fsu.edu clearly shows a system for searching a dictionary such that users can tell the search engine if they want a case sensitive or case insensitive search (read as a search engine configured to receive a user search query for a search of the dictionary, and to return a search result list, and wherein the search engine is further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary) (page 1 lines 26 –29).

Therefore it would have been obvious to one of ordinary skill in the art to combine the search engine taught by fsu.edu into the sorting system taught by United Scripters for the purpose of allowing a this system to be used across different platforms.

Consider **claim 14** and **as applied to claim 13 above**, United Scripters clearly show a system wherein an Argument determines whether the sorting will or will not be case-insensitive (read as a dictionary sorting function that sorts the ordered list of terms base on case-sensitivity or case-insensitivity in accordance with a user selection from the search engine) (page 3 of 6 lines 23 – 34).

Response to Arguments

07. Applicant has amended the specification and provided a replacement drawing sheet for FIG 3. Examiner accepts both the amended specification and new drawing and had dropped the objection on both.

Applicant argues that the Examiner has not satisfied the "initial burden of factually supporting a *prime facie* case of obviousness" with respect to claims 1 – 10 and 13 – 14 under 35 U.S.C. §103(a). Applicant has also argued that the Examiner has used "impermissible hindsight" to combine the teachings of Flasz et al., Wijnholds, and Dinh et al. with respect to claims 1 – 10 and 13 – 14. Examiner respectfully withdraws the previous rejection of these claims in view of the new grounds of rejection.

Applicant argues that there was in improper combination of documents for the 35 U.S.C. §102(a). Examiner disagrees because the documents used were different links on the same web page by the same author. Examiner agrees that the Notice Of References Cited included with the first Office Action may have been confusing, but was merely stating the reference used and the Waybackmachine reference to it. In this Office Action, new Non-Patent Documents have been used and the Notice Of References Cited has been made clearer as to which documents are included with the Office Action.

Applicant argues that the references were not included with the Office Action and were not accessible through PAIR. Examiner agrees that PAIR was malfunctioning and was unable to provide such documents. The documents from the prior Office Action as

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well as with this one should be on PAIR and should be accessible to the Applicant.

Also, a copy was provided via fax to the Applicant at the Applicant's request.

Applicant argues that United Scripters does not disclose every feature of claims 6 and 13 and that the rejection should be withdrawn. More specifically, Applicant argues that United Scripters does not disclose, "determining a last term of the ordered list that is case insensitively equal to a search term, and converting the search term to all lower case characters to obtain the last term" (in claim 6) and does not disclose "a search engine configured to receive a user search query for a search of the dictionary, and to return a search result list, and wherein the search engine is further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary" (in claim 13). Examiner respectfully agrees that these features of claims 6 and 13 were not fully addressed in the previous Office Action. As such, Examiner has lifted the previous rejection off of claims 6 and 13. The claims have however been rejected in view of the new grounds of rejection set forth in this Office Action. United Scripters teaches the claimed invention as obvious under 35 U.S.C. §103(a).

Applicant argues that United Scripters does not disclose every features of claim 1 and that the rejection should be withdrawn. More specifically, Applicant alleges that United Scripters fails to teach "setting a dictionary sorting function to sort the ordered list of terms based on case sensitivity" (claim 1). Examiner respectfully disagrees. United Scripters mentions how the Array absolutely must be sorted in order for the binary search to properly work. It is then disclosed by United Scripters various methods for sorting the Array (including ones based on case sensitivity) so that the search can

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operate effectively. United Scripters is clearly showing that the Array must be sorted and is providing methods to do so. Since the rejection on claim 1 stands, the rejection on claims 2 – 5 also stands as they are dependent on claim 1, and fail to introduce new matter that is not disclosed by United Scripters. As such, the rejection on claims 1 – 5 under United Scripters remains in tact.

Conclusion

08. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

09. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Christopher Raab whose telephone number is (571) 270-1090. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Christian Chace can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Christopher Raab
C.R./cr

November 18, 2006

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

KBP

Christopher Raab

C.R./cr



November 18, 2006



CHRISTIAN CHACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100